Quality Management and the Ambient Air Monitoring Quality Assurance Manager: Roles and Responsibilities

The Quality Assurance Manager is defined as the person responsible for quality management- that aspect of the overall management system of the organization that determines and implements the quality policy. Quality management includes strategic planning, allocation of resources and other systematic planning activities (e.g., planning, implementation, assessment and reporting) pertaining to the quality system[1]. The QA Manager should be organizationally independent of any environmental data generation activities; who has sufficient technical and management expertise and authority to conduct independent oversight and assure the implementation of the organization's quality system of the Ambient Air Quality Monitoring Program. The QA Manager shall be recognized as a member of the management team and a key decision maker who has open access to upper management.

> **NOTE**- The term QA Manager is simply being used to describe a person within the ambient air monitoring program who functions as the representative for quality assurance activities.. There are many other descriptive terms that may be used to describe the person who is responsible for the functions described below

In order to provide flexibility to the various organizations that implement the Ambient Air Quality Monitoring Program quality system, the following functions are listed as the responsibility of the Quality Manager or the quality management staff under the oversight of the Quality Manager. Roles specifically required of the QA manager are identified in italics.

Ambient Air Program/Project Management -

- *Interpreting EPA QA policy especially for the purposes of developing, with the direction from management, the policy for the monitoring organization*
- *Developing or assisting in the development of the agency quality management plan*
- *Acting as a management team member who provides the official approval of the QMP for the monitoring organization.*
- *Developing independent QA budgets for the ambient air program and ensuring funds are adequate for implementing required and critical quality system elements.*
- *Quality assurance oversight of all ambient air monitoring efforts conducted on behalf of or under the regulatory requirements of the parent agency including quality control activities.*
- *Recommending required management-level and technical-level corrective actions and tracking the implementation of corrective actions.*
- *Ensuring that every EPA funded environmental data operation has an approved QAPP before any data collection activity begins.*
- *Approving QA project plans.*
- *Reviewing training programs to ensure adequate and appropriate training of monitoring and quality assurance staff.*
- Developing data quality objectives.

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[1]ANSI/ASQC E4-1994

- Developing or overseeing development of quality assurance project plans.
- Providing technical advice and assistance to monitoring staff regarding data quality issues arising in the course of routine operations.
- Issuing quality assurance/quality control guidance memoranda as needed.
- Tracking QA training accomplishments of QA and monitoring staff.
- Instituting training programs as needed.

- Reviewing acquisition packages (contracts, grants, cooperative agreements, inter-agency agreements) to determine the necessary QA requirements.
- Representing the Agencies "QA" perspective at QA meetings and on Workgroups and serving as the QA liaison with the EPA Region and Headquarters.

- Overseeing operation of quality assurance laboratory.

Quality Assurance Audits

- Conducting performance audits on ambient air monitoring equipment in accordance with established guidelines and schedules including:
    - Criteria pollutant monitors.
    - Special purpose monitors and non-criteria monitors (PSD, meteorological instruments, locational information).
    - Gravimetric and other laboratory methodologies.
- Conducting site characterization audits.
- Conducting data and technical systems audits of monitoring program elements as needed or required.
- Preparing audit finding reports and tracking progress on corrective actions.
- Reporting audits to AQS.
- Participating in National Performance Audit Program and Performance Evaluation Program audits.
- Participating and assisting in EPA conducted systems and technical audits.

Certification of Standards

- Approving and certifying the accuracy and reliability of transfer standards used in QA/QC checks of monitoring equipment. Standards should be certified over the range of use within the monitoring network.
    - Flow rate standards (high volume and low volume).
    - Ozone transfer standards.
    - Temperature transfer standards.
    - Pressure standards.
    - Humidity standards.
    - Gravimetric and gaseous standards .
- Tracking vendor or externally provided certifications to ensure that all equipment and gaseous standards used by monitoring and QA staff meet minimum requirements and are traceable to National Institute of Standards and Technology (NIST) standards, and that certifications are current.

Data Validation

- Validate air monitoring data as complete and accurate by detailed review of a significant percentage of the collected data.
- Performing data outlier checks.

Data Management

- Maintaining and managing precision and accuracy data and taking corrective action if goals are not met.
- Verifying accuracy and completeness of data entry into AQS database.
- Compiling and reviewing missing data reports for QA/QC purposes.
- Preparing QA/QC summaries and reports for stakeholders and decision makers
- Reviewing data management procedures and providing advice on adequacy of data management system.
- Providing data analysis as needed.
- Ensuring the appropriate archiving of documentation and records

Assessment of Methods and Equipment

- Assessing adequacy and appropriateness of new methodologies and/or equipment
- Overseeing development of standard operating procedures for new equipment and/or methods.
- Reviewing and approving standard operating procedures and updating as needed.

Data Review and Assessment

- *Providing overall assessments of data quality to management and stakeholders to ensure agency information, raw data and QA data are accurate and appropriate.*
- Providing QA reports to management as appropriate.
- Reviewing PARS from AQS for precision and accuracy evaluation (i.e. were 95% goals met).